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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID BAGGETT, GREGORY R. GALPERIN,
and CARL G. DEMARCKEN

Appeal 2008-2238
Application 09/431,366
Technology Center 2100

Oral Hearing Held: September 11, 2008

Before HOWARD BLANKENSHIP, JAY P. LUCAS and ST. JOHN COURTENAY, III, *Administrative Patent Judges.*

ON BEHALF OF THE APPELLANTS:

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The above-entitled matter came on for hearing on Thursday, September 11, 2008, commencing at 9:00 a.m., at The U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Deborah Rinaldo, Notary Public.

MR. MALONEY: Good morning.

JUDGE BLANKENSHIP: Good morning. You have 20 minutes and you can begin when you are ready.

MR. MALONEY: If it pleases the Board, I would like to just spend 30 seconds discussing the 101 and the 112 rejection and focus most of my remarks on the prior art rejections.

Essentially in claims 1 and 30, we are claiming a computer-implemented method. In claim 5 we are claiming availability system, including a cache and a cache manager. And for the reasons discussed in our briefs, I believe that's sufficient to provide statutory subject matter.

With respect to the rejection under 112, first paragraph, essentially the steps of claim 3, I believe, are steps which the examiner clearly cannot find in the prior art and therefore prompting this particular rejection. Those steps are part of determining whether or not the cache should be updated.

And again, for the reasons discussed in our briefs, we feel that those claims are also supported. And the specification doesn't impose any specific limitation on where these particular steps occur in the process.

Turning to the prior art rejections, before I actually discuss the references, I would like to give the Board a little -- some preparatory remarks, since the examiner chose to do that with respect to his characterization of our claims, which I'll get to in a moment.

This invention is directed to specifically a particular type of processing that's involved in air travel and it's called seat availability. When a travel planning site or a computer reservation service sells a ticket to a customer, there are several steps, specifically well-defined steps in the airline industry that they have to go through in order to find and sell that ticket.

One of them is called scheduling in which you find sets of flights that can go between point A and B.

Another one is called faring in which you find fares which are complicated data structures that have prices and markets associated with them and they have rules associated as to whether or not those fares can be used with particular flights. And then there is another aspect called booking, when you actually book a ticket.

In between there someplace is often what's called seat availability. That's actually querying an airline to determine whether or not they are willing to sell a seat on their flight for the particular fare in a sequence of flights that have been selected.

The advent of low fare searching, which we discuss in the summary of our invention section, has provided computer tools that enable computers to quickly calculate various travel options. In other words, sequences of flights and fares between two different points of travel. Oftentimes a user could potentially select among thousands of such flights -- I'm sorry, such travel options.

The problem, obviously, however, with this scenario is that the seat availability is an algorithm that's typically run on an airline's revenue management system. The airlines charge for accessing these systems. Back when we filed this application I believe that charge was a dollar. There may be other charges associated with that.

And it takes time for the system to respond. Typically a second. So if you are a travel planning site and you have calculated 10,000 possible ways of getting between point A and point B, you obviously do not want to send 10,000 of these things to a potential customer.

But you also want to send ones that are likely going to be able to be booked on in which there's going to be some availability on. And we also are in a situation where we want everything done relatively quickly. So we cannot wait 20 or 30 minutes for airlines to respond with availability on each one of these 10,000 flights.

So there is a need that was not recognized back at the time this application was filed of a different way of filtering out these potential pricing solutions or travel options to return a set to the user that are likely to be available so that when they go book a ticket, they are more likely to be able to book a ticket using one of those solutions than not.

It would be probably the worst thing in the world to return a bunch of solutions and have the user not be able to book any of those solutions. So this is where all this comes from.

This application describes a cache. Now, the cache is not necessarily being used in the same way a typical cache is being used. That's not necessarily the subject matter of these claims. The subject matter of these claims is actually how this cache is managed as opposed to how it's used.

But let me simply say this: Cache is actually acting like a predictor of this -- what this revenue management system is going to do as opposed to just actually caching the answers for these seat availability queries.

So now turning to the examiner's characterization of our claims, I did not find the examiner's characterization of our claims particularly helpful. And particularly the examiner said that the invention was directed towards the method for managing information in a cache to make sure the information was correct, current and complete. This is on pages 15 and 16 of his brief.

And he gives as an example of how we do that the discussion on page 11, lines 10 to 15 about how if there's a certain lapsed time, you send an availability query request to the airline's database, as he characterized it.

However, the problem with this characterization of the invention is the examiner is actually citing the part of our application that discusses how a query is actually made to the cache and what happens when the query is made to the cache for availability information and whether or not that availability query is going to be returning an answer from the cache or returning an answer that's actually made to the airline's revenue management system.

That's not the subject matter of these claims. The subject matter of these claims is actually discussed from figures 7 to figures 13. The subject matter of these claims has to do with a cache management technique. And the cache management technique involves proactively determining whether the answer in the cache should be updated.

The criteria used to actually determine whether or not the answer should be updated is the needs of the travel planning system that are actually making the queries to the cache.

So we have a situation where you have a travel planning system that's using this availability cache --

JUDGE LUCAS: Give me an example of a travel planning system-- are we talking about, like, Travelocity or --

MR. MALONEY: Travelocity, Expedia, Orbitz, those are all travel planning systems.

JUDGE LUCAS: And when they give me my responses, they are going against the cache to give me my trip from here to New York?

MR. MALONEY: No. So this is what happens. When you send in an availability query to Orbitz, for example -- I use Orbitz as an example since Orbitz is a licensee of a lot of my client's software.

Orbitz will access a database that has flight information in it, all the potential flights that can be accessed, say, from New York to LA. There are many, many flights on many, many carriers. They go in many, many different directions. It's a very complicated process. It's a graph process.

They access these flights. Then they also access from a different source fares. And the fares come from a company called ATPCA [sic], Airline Traffic Protocol Company, I think it is. It's in the specification.

And they figure out, based upon things called fare rules, what fares can be used with what sets of flights to give you a travel option between New York and LA. So you may have direct flights between them.

There are many different fares on that direct flight that you could possibly use. You may have indirect flights where you may travel through Chicago or travel through Des Moines, Iowa or what have you.

So those are pricing solutions. Those are basically sets of flights and a fare that can be used -- one or more fares that can cover those sets of flights.

But that still does not tell you whether or not you can actually buy a ticket for that pricing solution, because in order to be able to buy a ticket, each one of those flights you are going to take for any one of those particular pricing solutions has to have a seat available on it that the airline is willing to sell to you.

So for example, if you and I both submit queries at the exact same time to this travel planning site for the same airline, the same sets of flights and I'm having a round-trip and you are having a one-way trip, they are more likely to give me the last seat on that because they are making more money from me than they are going to make from you.

So there is a very complicated algorithm that's run in a revenue management system that the airline keeps to try to maximize profit on every flight. This is described in the specification.

JUDGE LUCAS: But to go against the terminology of the claims, the -- what is shown to me by Orbitz of all the available seats comes from the cache.

MR. MALONEY: Orbitz is not showing you any of this stuff.

JUDGE LUCAS: Only if the caches fail does it go ahead and refresh the information in the cache.

MR. MALONEY: No. First of all, Orbitz is not showing you any of this stuff. You would not see anything that's happening. This is all happening behind the scenes.

So essentially what this cache does -- it does several things, not all of them which are the subject of this claim.

For example, one of the ways in which this cache is used, which is not the subject matter of these claims, but one of the ways this cache is used is that unlike Lynch which describes downloading a bunch of information from a computer reservation system, it's really not practical, I think, to download all the availability information for these systems.

I don't think Lynch really specifically discusses seat availability information. And you can see in the briefs the examiner and I have gone back and forth on that because that just involves all these costs that are associated with this.

I think they handle that when they get a pricing solution that they are going to want to book. Then they see whether or not they can actually book that pricing solution.

But in our claims, what our claims are actually directed to is this cache that has these availability answers and queries.

They have a query of the availability and the answer in it. And the availability system, the overall system will make some intelligent guesses about whether or not availability is going to be predicted as being yes or no for a particular flight based upon what they see in the cache.

It may be an exact answer. It may be the same availability query for a particular same flight or it may be for a similar flight leaving at a similar time on a different airline.

They may not have an exact availability query for that, but they are going to make a guess, they are going to predict that that particular sequence of flights are going to be available based upon what they see in the cache.

That's not, though, what the subject matter of this claim is. The subject matter of this claim is based -- is directed to how you update this cache.

So in Lynch, what Lynch does, Lynch periodically will just go to the computer reservation service system and download all the information. So it does that once every hour, once every ten minutes or whatever.

We take a position they don't download availability information. We can argue about that, but I think it's quite clear they don't describe it. So it might be inferred but I think, again, if they were to actually do that, it would entail all these costs we're trying to avoid.

Whereas, what we're doing is we're proactively updating this. So we look at what's happening at the travel planning system. If you look at claim 2, maybe it's a little bit clearer.

Claim 2 talks about monitoring the queries that are made to the travel planning system to see what types of flights, what destinations are being -- are the most sought after. And it is those queries that control how we update the cache.

There is also other mechanisms --

JUDGE LUCAS: The queries are made to the cache itself? First of all, I apologize now for the times I've interrupted you.

MR. MALONEY: That's okay.

JUDGE LUCAS: In claim 2 it says, Monitoring availability queries that are made to the cache by the travel planning system. So the cache itself is what the queries are going to be bounced against. Agreed?

MR. MALONEY: The cache itself is what the queries are going to be bounced against. So the queries made to the cache by the travel planning system, okay, are a reflection of the needs of the travel planning system.

So if the travel planning system is getting, say, user queries from you and from everybody else in this room that we want to fly from New York to Boston, they are going to update that information more often in the cache than if, say, New York to Phoenix, Arizona, because no one wants that information.

So it's basically what's happening at the travel planning system that's deciding how this availability cache is being updated. And the point here being is that this cache is holding information that had been made on previous availability queries that were made over extended periods of time.

And this cache is constantly being updated and new entries are being added, new entries are being deleted. That's the subject matter of some of the dependent claims based upon how the travel planning systems are actually using it.

That's not described in Lynch. All Lynch does is Lynch has an algorithm that runs once a minute and just downloads all the information which, again, for reasons I've discussed does not appear to include availability information. And if it did, it would be very unworkable because basically it's incurring all of these costs that we're trying to avoid.

So we're actually using availability queries that were previously made to try to make guesses about what the availability is going to be currently. It's like a prediction type of mechanism. That's how it's being used. How it's being managed is clearly different than what's described in Lynch.

So I think that takes me actually through some of my discussion of Lynch. The other one I would probably like to discuss is Walker. Walker basically describes a revenue management system and changes to a revenue management system to account for what we would term distressed inventory.

They want to provide a new fare class which is essentially a ticket for unspecified time of travel. So if an airline believes that a flight is going to be leaving with empty seats on it, they will make that flight available at a very low cost to people who have bought these types of tickets.

And again, they are describing changes to the revenue management system but it's not describing any features of claim 23 or claim 30. But again, it's not -- the cache that the examiner seems to find in Walker is actually the revenue management system.

JUDGE LUCAS: Going back to Lynch, which you have dismissed as not discussing availability, are comments in Lynch. For example, at the top of column 4, the customer reservation systems 24 provide travel service inventory information such as airline, flight, hotel and rental automobile availability and rates.

And in Lynch he talks at the top of column 2, the system obtains inventory information specifying the rates and/or availability of a plurality of travel arrangements from one or more computer reservation systems.

And there's other spots where he's talking about availability and rates of airline flights and so forth. Now, you say that is not really seat information. That's airline flight information.

MR. MALONEY: So here is one way of looking at it. There may be -- in my view, that does not describe seat availability information.

But if you look at it from the point of view that an airline may have seats available on a flight, it does not necessarily mean that the airline is going to sell you one of those seats because the airline may want to know whether you are buying a one-way or a round-trip ticket because they want to try to maximize the profit potential of that particular seat.

So just the fact that there may be seats available on the airline does not mean that they are talking about seat availability.

And I tend to doubt that they are, in fact, talking about seat availability because if they were to download all the seat availability information from all these computer reservation services, they would be talking about spending huge amounts of money because they are going to charge them a dollar every time they run that algorithm. So I don't think that that's what was intended.

JUDGE LUCAS: Could it not be, Mr. Maloney, that you have invented a method for lowering the cost of seat availability but that does not mean that the Lynch reference doesn't teach --

MR. MALONEY: I'm sorry?

JUDGE LUCAS: That you have invented a method for lowering the cost of presenting seat information to a user because of your cache and the way you update based on your own methodology, but that does not mean that the claim doesn't teach presenting seat availability.

MR. MALONEY: I didn't understand the -- what do you mean the claim does not teach --

JUDGE LUCAS: That the reference doesn't teach seat availability. Lynch may present seat availability. Now, your argument is that, well, I'm doing it at much less of a cost since I don't go out and pay the dollar per reference as often as Lynch would do so.

MR. MALONEY: Well, my argument is a little different than that. My argument is that, first of all, Lynch does not describe seat availability because of his costs.

And secondly, even if we were to assume that Lynch describes seat availability information, Lynch does not update that seat availability information using a cache management algorithm as claimed in claim 1. That's the feature.

JUDGE LUCAS: Okay. I understand.

MR. MALONEY: The costs that we're avoiding are two costs. One is a monetary cost and the other one is a computation cost. So again, if Lynch wanted to access all of these revenue management systems of all of these airlines like the examiner seems to be stating, then he's going to incur a second or so for each one of these availability queries.

And if you are doing this for all of these airlines with all of these different flights, that's going to take enormous amounts of time. Enormous amounts of time is enormous amounts of money. So I just don't believe that's what's happening.

JUDGE LUCAS: I understand and appreciate your point.

MR. MALONEY: So again, I think Walker is not particularly relevant to the subject matter. Walker, in fact, I think helps support our position because it actually describes somewhat an example of a revenue management system or modifications to a revenue management system.

JUDGE BLANKENSHIP: We've taken up all your time. Would you like a minute to sum up?

MR. MALONEY: Well, I would like to just talk about Fileppe and Mehovic for a second. That's a second set of rejections that the examiner had provided.

Mehovic basically describes a process to migrate computer reservation information, commonly referred to as passenger name records, to a relational database. It has nothing at all to do with the subject matter of these claims. It's clearly not even relevant -- as relevant as Lynch might be.

Fileppe has to do with a technique for updating an object-oriented database. And if there was ever a case in which there was no suggestion or motivation to combine two references, it has to be this case because the examiner states that -- examiner missed that Mehovic teaches a technique which is again a time-based technique.

And in this case every time the computer reservation service information changes, it updates this database.

And somehow the examiner believes that it would be obvious to take the teachings of Fileppe, which the examiner equates to this current proactive stuff, to combine that with Mehovic when, in fact, doing that would actually make Mehovic's system not as efficient.

So again, to the extent that there's still some requirement for motivation to combine references, I think that this is a clear case where there is no motivation. And again, for the reasons that we discussed in the brief, I believe that these two references also do not describe or suggest the claimed invention.

Are there any other questions?

JUDGE BLANKENSHIP: No. Thank you.

MR. MALONEY: Thank you very much.

(Whereupon, the proceedings were concluded on September 11, 2008.)